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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,221	02/27/2004	Kouichi Okugami	70456-016	4835

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EXAMINER

KRAUSE, JUSTIN MITCHELL

ART UNIT	PAPER NUMBER
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3682

DATE MAILED: 12/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/787,221	Applicant(s) OKUGAMI ET AL.	
	Examiner Justin Krause	Art Unit 3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 13 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-12 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Suzuki et al (US 2004/0079310).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

The term "transmission component" is being treated under its broadest reasonable interpretation. Herein, transmission component is being treated as a component capable of transmitting a force.

The preamble recites intended use of the device and introduces no structure to the device. The preamble is deemed to end with the phrase, "said component having", with all previous language reciting the intended use environment of the device.

"The preamble is not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone." See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951):

Suzuki claims a rolling bearing having a grain size number greater than 10, a fracture stress greater than 2650 MPa and a nitriding layer at a surface layer having a hydrogen content of at most 0.5ppm. (see claims 1-9)

Regarding the limitation that the nitriding layer is formed by a carbonitriding process, "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the

claim is unpatentable even though the prior product was made by a different process."

In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985), MPEP 2113.

Claims 1-12 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Ohki (US 2003/0123769).

The applied reference has a common inventor and assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

The term "transmission component" is being treated under its broadest reasonable interpretation. Herein, transmission component is being treated as a component capable of transmitting a force.

The preamble recites intended use of the device and introduces no structure to the device. The preamble is deemed to end with the phrase, "said component having", with all previous language reciting the intended use environment of the device.

"The preamble is not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone." See *In re Hirao*, 535 F.2d 67,

190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Ohki discloses a rolling bearing having a grain size number greater than 10, a fracture stress greater than 2650 MPa and a nitriding layer at a surface layer having a hydrogen content of at most 0.5ppm. (see claims 10-17)

Regarding the limitation that the nitriding layer is formed by a carbonitriding process, "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985), MPEP 2113.

Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Takemura et al (US Patent 6,224,688).

The term "transmission component" is being treated under its broadest reasonable interpretation. Herein, transmission component is being treated as a component capable of transmitting a force.

The preamble recites intended use of the device and introduces no structure to the device. The preamble is deemed to end with the phrase, "said component having", with all previous language reciting the intended use environment of the device.

"The preamble is not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone." See *In re Hira*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Takemura discloses a rolling bearing having a nitriding layer at a surface layer with a grain size number exceeding 10, more specifically 11 or above (Col 5, line 59).

Regarding the limitation that the nitriding layer is formed by a carbonitriding process, "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

Regarding claims 5-8, there is reason to believe, based on the similarity of (material, structure, etc.), that the functional limitation(s) of fracture stress may be (an) inherent characteristic(s) of Takemura's material. In accordance with *In re Best*, 562 F.2d 1252, 195 USPQ 430, 433 (CCPA 1977):

[W]here the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the

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authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on.

This "burden of rebutting [may be of] the PTO's reasonable assertion of inherency under 35 USC 102, or of prima facie obviousness under 35 USC 103" (195 USPQ at 432).

Accordingly, the burden is placed upon the applicant to prove that the limitation(s) in question is/are not (an) inherent characteristic(s) of the reference disclosure.

Claims 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Takemura et al (US Patent 6,440,232).

Takemura discloses a rolling bearing that is a transmission component having material with a carbonitrided surface layer and a hydrogen content of at most 0.5 ppm. (See Table 2, Col 9 line 53-Col 10 line 25, claim 3, claim 4)

Regarding the limitation that the nitriding layer is formed by a carbonitriding process, "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process."

In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985), MPEP 2113.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Maeda et al. (US Patent 6,423,158).

Suzuki discloses the claimed subject matter as described above, but does not explicitly disclose a tapered roller bearing having an inner ring, and outer ring and a tapered roller.

Maeda et al teaches a carbonitrided tapered roller bearing having an inner ring (13), an outer ring (15), and a tapered roller (16) in a transmission for the purpose of supporting both radial and thrust loads.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the bearing of Suzuki by using a tapered roller bearing as taught by Maeda, the motivation would have been to support both radial and thrust loads.

Claims 1-12, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohki in view of Maeda et al. (US Patent 6,423,158).

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Ohki discloses the claimed subject matter as described above, but does not explicitly disclose a tapered roller bearing having an inner ring, and outer ring and a tapered roller.

Maeda et al teaches a carbonitrided tapered roller bearing having an inner ring (13), an outer ring (15), and a tapered roller (16) in a transmission for the purpose of supporting both radial and trust loads.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the bearing of Ohki by using a tapered roller bearing as taught by Maeda, the motivation would have been to support both radial and thrust loads.

Claims 1-8 and 15 rejected under 35 U.S.C. 103(a) as being unpatentable over Takemura '688 in view of Maeda et al (US Patent 6,423,158).

Takemura '688 discloses the claimed subject matter as described above, but does not explicitly disclose a tapered roller bearing having an inner ring, and outer ring and a tapered roller.

Maeda et al teaches a carbonitrided tapered roller bearing having an inner ring (13), an outer ring (15), and a tapered roller (16) in a transmission for the purpose of supporting both radial and trust loads.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the bearing of Takemura '688 by using a

tapered roller bearing as taught by Maeda, the motivation would have been to support both radial and thrust loads.

Response to Arguments

Applicant's arguments filed October 16, 2006 have been fully considered but they are not persuasive.

Regarding the applicant's argument that an aspect of the invention is, "a transmission component incorporated into a transmission . . .", this limitation is deemed preamble as addressed in the rejections above.

Regarding applicant's argument that the invention of claim 15 is a "tapered roller bearing", this argument has been addressed in the rejections above by combining the Maeda reference disclosing a carbonitrided tapered roller bearing with the disclosed material properties disclosed in Suzuki, Ohki and Takemura '688.

Regarding the applicant's argument that the "nitriding layer is formed by a carbonitriding process", the limitation is a product by process limitation as addressed in the rejections above. The nitriding layer applied in the references is capable of being formed by the process.

Regarding applicant's argument that Takemura does not suggest a fracture stress value of 2650 MPA. Applicant references Table 1 in the specification of Takemura a support, stating, "even if Takemura et al.'s steel composition were identical to that of the present invention, Takemura et al.'s steel is not carbonitrided and fails to obtain the

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claimed fracture stress value of at least 2650 MPa." This argument is unsupported by the table as it discloses no stress fracture values to support applicant's conclusion.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Krause whose telephone number is 571-272-3012. The examiner can normally be reached on Monday - Friday, 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JVK

11/30/06


Thomas R. Hannon
Primary Examiner